a highly localized compressive effect on the residual limb hosted within liner garment **10**. However, considering the total length of a tensioning cable, the sum total of localized compressive effects integrates into a circumferential compressive effect. Further, the arrangement of the cable path can create regions of relatively low and relatively high compression. In particular embodiments, the path of a cable can be customized to a particular patient, thus creating regions of variable compression within the liner garment **10** that manifest as regional effects on the hosted residual limb.

[0104] Embodiments of a liner garment **10**, as provided herein, include particular and distinct regions or zones within the surface area of the garment **10** that manifest as particular regional or zonal effects on a residual limb hosted within. By way of example, proximal **12** and distal **14** regions of liner garment **10** embodiments are distinct (FIG. **1**). Proximal region **12** is breathable as a whole, while the distal region **14** is substantially impermeable to fluid. The breathable character of the proximal region contrasts with prior art liner garments that are substantially impermeable to fluid throughout their length. Breathability is advantageous in that fluid buildup within the liner can be substantially eliminated as a problem.

[0105] In a second example, the proximal portion of the liner garment **10** includes regions that are substantially inelastic and regions that are elastic. Elasticity is generally biased in that elasticity is allowed in a horizontal or circumferential dimension, but substantially disallowed vertically; these features are imparted by the nature of the weave of the fabric. In general, such biased elasticity is the default, baseline, or dominant character of the proximal portion of liner garment **10** embodiments; inelasticity is added to- or integrated within the dominant character of the fabric weave. Inelastic portions of the proximal portion of liner garment **10** embodiments may be appreciated as structural elements of liner that manifest as sites of compression on a hosted residual limb. Elastic portions, in contrast, provide a relative degree of relief from compression.

[0106] Embodiments of the prosthetic socket liner, as provided herein, may be fabricated in a matrix or inventory of varied sizes and shapes (FIGS. **6**A-**6**C), and are customizable. Sizing may refer to both length and width (or circumference) of liner garment **10** embodiments. Shapes may include conical, tubular, or bulbous. With such variables, most patients can be well fitted with a prosthetic socket liner embodiment from an inventory of such sizes and shapes. Ancillary features included in a larger prosthetic system, such as a supportive umbrella **40** and a distal funnel **60** (described below) may also be provided in a matrix or inventory of varied sizes to complement the sizing of the prosthetic socket liner.

[0107] With regard to the various patterns of tensioning and elasticity within the sleeve portion **12** of liner garment **10** embodiments, in some embodiments these patterns are standardized according to functional generalities that apply to statistically common or consensus residual limbs. However, residual limbs are highly individual, and may differ from a consensus residual limb sufficiently that an individually customized arrangement of tensioning and elasticity has significant therapeutic benefit; accordingly, embodiments of the technology include the fabrication of customized arrangements of tensioning and elasticity.

[0108] Digital profiles of residual limbs can be captured by methods described in U.S. patent application Ser. No. 14/731,163 (US Patent Pub. No. 2015/0352775) of Geschlider et al., as filed on Jun. 4, 2015, which is incorporated herein by this reference. Digital profiles such as these can be directed to determine optimal arrangements of tensioning and elasticity. These profiles are typically directed toward a highly conformal model of the residual limb, but they may be further modified by biomechanical considerations, lifestyle or activity considerations, or personal preferences of the user. By such methods, highly customized arrangements (custom-fitted for an individual patient) of tensioning and elasticity can be created in liner garment **10** embodiments, particularly in the proximal sleeve portion. Custom sizing and regional arrangements of tensioning and elasticity are typically applied to fabrication of a prosthetic socket liner during the flat pattern stage of its fabrication, as described above.

[0109] Aspects of the provided technology that relate to a distal umbrella **40** (including a pentagonal periphery and radiating ribs **45** on the umbrella's distal surface) will now be addressed (FIGS. **11**A-**11**P). Describing features of a distal supportive umbrella **40** can begin with an appreciation of some aspects of the distal end of a prosthetic socket liner. As noted above in the context of the five-pointed star formed by joined darts **28** at the distal end of a liner embodiment, an embodiment of umbrella **40** may be bonded thereto. A distally-positioned umbrella **40** provides a supportive and supportable structure onto the generally compliant form of a prosthetic socket liner. Embodiments of umbrella **40** have a generally concave form, i.e., a concavity facing proximally when bonded to the convex distal end of a socket liner. Embodiments of the umbrella **40** may be provided in various sizes in order to match the diameters of prosthetic socket liner sizes. In one example, embodiments of an umbrella **40** are formed by injection molding of Hytrel 7246 Black, or a functional equivalent thereof.

[0110] Embodiments of a distal umbrella **40** are generally saucer-shaped (FIG. **11**A), concave on the proximal surface **42** and convex on the distal surface **44**. The concavity of the proximal surface conforms to the convex distal aspect of a prosthetic socket liner garment **10**. In accordance with a five-dart arrangement of the distal end of a prosthetic liner (described above), some particular embodiments of a supportive umbrella **40** are pentagonal. The points or peaks of the pentagonal shape correspond to the seams **29** that join the darts **28** of the prosthetic socket liner, and to overlay these seams when the umbrella **40** is bonded to the distal surface of the liner. As noted above in description of the seamed darts, the bonding of the umbrella **40** over the seams supports the integrity of the seams.

[0111] The distal surface of the supportive umbrella **40** includes a set of raised ribs **45** that radiate from a central hole toward the periphery of the umbrella (FIG. **11**B). In a typical arrangement, these radiating ribs correspond in placement with the overall shape of the umbrella. In a pentagonal umbrella **40** embodiment, for example, a rib extends from the central hole toward each of the pentagonal points. One or more ribs may be positioned between this basic set of five ribs. Thus, in one example, a supportive umbrella **40** may have a total of ten ribs, five that are directed toward a pentagonal point, and five ribs, each disposed between two of the point-associated ribs. In an alternative view, the radiating ribs are fully diagonal, albeit interrupted by a central hole. In this view, one radial section of a rib is directed toward a pentagonal point, and the